

## **AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously presented) An isolated polypeptide (a) consisting of the amino acid sequence of SEQ ID NO: 2, or (b) exhibiting a potassium-dependent sodium-calcium exchange activity and consisting of an amino acid sequence in which 1 to 5 amino acids in total are substituted, deleted, inserted, and/or added at one or plural portions in the amino acid sequence of SEQ ID NO: 2.

2. (Canceled)

3. (Previously presented) The isolated polypeptide according to claim 1, wherein the sodium-calcium exchange activity is a reverse sodium-calcium exchange activity.

4. (Previously presented) An isolated polynucleotide encoding the polypeptide according to claim 1 or 3.

5. (Original) An expression vector comprising the polynucleotide according to claim 4.

6. (Original) A cell transfected with the expression vector according to claim 5.

7. (Previously presented) A method for producing the isolated polypeptide according to claim 1 or 3, the method comprising expressing a polynucleotide encoding

the polypeptide in a cell transfected with an expression vector comprising the polynucleotide.

8. (Previously presented) A method for screening for an inhibitor of the polypeptide according to claim 1 or 3, comprising the steps of:

- (a) introducing into a cell an isolated polynucleotide encoding the polypeptide of claim 1 or 3,
- (b) bringing a cell expressing the polypeptide into contact with a substance to be tested,
- (c) analyzing whether or not a potassium-dependent sodium-calcium exchange activity in the polypeptide is inhibited, and
- (d) selecting the substance that inhibits the potassium-dependent sodium-calcium exchange activity in the polypeptide.

9. (Currently amended) A method for screening for an inhibitor of leukocyte activation, comprising the steps of:

- (a) introducing into a cell an isolated polynucleotide encoding a polypeptide
  - (i) consisting of the amino acid sequence of SEQ ID NO: 2 ~~or SEQ ID NO: 4~~, ~~or~~
  - (ii) exhibiting a potassium-dependent sodium-calcium exchange activity and consisting of an amino acid sequence in which 1 to 5 amino acids in total are substituted, deleted, inserted, and/or added at one or plural portions in the amino acid sequence of SEQ ID NO: 2 ~~or SEQ ID NO: 4~~,

- (b) bringing a cell expressing the polypeptide into contact with a substance to be tested,
- (c) analyzing whether or not a potassium-dependent sodium-calcium exchange activity in the polypeptide is inhibited, and
- (d) selecting the substance that inhibits the potassium-dependent sodium-calcium exchange activity in the polypeptide, and ~~inhibits leukocyte activation.~~
- (e) confirming that the selected substance inhibits leukocyte activation.

10. (Currently amended) A method for screening for a therapeutic agent for postischemic reperfusion injury and/or an inflammatory disease, comprising the steps of:

- (a) introducing into a cell an isolated polynucleotide encoding a polypeptide
  - (i) consisting of the amino acid sequence of SEQ ID NO: 2 ~~or SEQ ID NO: 4;~~ or
  - (ii) exhibiting a potassium-dependent sodium-calcium exchange activity and consisting of an amino acid sequence in which 1 to 5 amino acids in total are substituted, deleted, inserted, and/or added at one or plural portions in the amino acid sequence of SEQ ID NO: 2 ~~or SEQ ID NO: 4,~~
- (b) bringing a cell expressing the polypeptide into contact with a substance to be tested,
- (c) analyzing whether or not a potassium-dependent sodium-calcium exchange activity in the polypeptide is inhibited, and

- (d) selecting the substance that inhibits the potassium-dependent sodium-calcium exchange activity in the polypeptide for use as a therapeutic agent for postischemic reperfusion injury and/or an inflammatory disease.

11. (Currently amended) A process for manufacturing a pharmaceutical composition for treating postischemic reperfusion injury and/or an inflammatory disease, comprising the steps of:

- (a) introducing into a cell an isolated polynucleotide encoding a polypeptide
  - (i) consisting of the amino acid sequence of SEQ ID NO: 2 ~~or SEQ ID NO: 4~~, ~~or~~ ~~NO: 4~~, or
  - (ii) exhibiting a potassium-dependent sodium-calcium exchange activity and consisting of an amino acid sequence in which 1 to 5 amino acids in total are substituted, deleted, inserted, and/or added at one or plural portions in the amino acid sequence of SEQ ID NO: 2 ~~or SEQ ID NO: 4~~,
- (b) bringing a cell expressing the polypeptide into contact with a substance to be tested,
- (c) analyzing whether or not a potassium-dependent sodium-calcium exchange activity in the polypeptide is inhibited,
- (d) selecting the substance that inhibits the potassium-dependent sodium-calcium exchange activity in the polypeptide, and
- (e) preparing a ~~medicament~~ pharmaceutical composition containing the substance.

12-18. (Cancelled)

19. (Previously presented) The method according to claim 9, wherein the polypeptide consists of (a) the amino acid sequence of SEQ ID NO: 2, or (b) the amino acid sequence in which 1 to 5 amino acids in total are substituted, deleted, inserted, and/or added at one or plural portions in the amino acid sequence of SEQ ID NO: 2.

20. (Previously presented) The method according to claim 10, wherein the polypeptide consists of (a) the amino acid sequence of SEQ ID NO: 2, or (b) the amino acid sequence in which 1 to 5 amino acids in total are substituted, deleted, inserted, and/or added at one or plural portions in the amino acid sequence of SEQ ID NO: 2.

21. (Previously presented) The process according to claim 11, wherein the polypeptide consists of (a) the amino acid sequence of SEQ ID NO: 2, or (b) the amino acid sequence in which 1 to 5 amino acids in total are substituted, deleted, inserted, and/or added at one or plural portions in the amino acid sequence of SEQ ID NO: 2.